

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/534,296  
Source: PT/10  
Date Processed by STIC: 11/8/05

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/10/534,296

TIME: 12:16:09

Input Set : A:\UMD-63.seq.txt

Output Set: N:\CRF4\11082005\J534296.raw

3 <110> APPLICANT: University of Medicine and Dentistry of New Jersey  
 5 <120> TITLE OF INVENTION: Compositions and methods for the Discovery of Novel NA, K-ATPase  
 6 Inhibitors for the Treatment of Cardiovascular Diseases and  
 7 Conditions  
 9 <130> FILE REFERENCE: 54704.8061.WO00  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/534,296  
 C--> 11 <141> CURRENT FILING DATE: 2005-05-09  
 11 <150> PRIOR APPLICATION NUMBER: 60/425,037  
 12 <151> PRIOR FILING DATE: 2002-11-07  
 14 <160> NUMBER OF SEQ ID NOS: 2  
 16 <170> SOFTWARE: PatentIn version 3.2  
 18 <210> SEQ ID NO: 1  
 19 <211> LENGTH: 1001  
 20 <212> TYPE: PRT  
 21 <213> ORGANISM: Homo sapiens  
 23 <400> SEQUENCE: 1  
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 26 1 5 10 15  
 29 Gly Val Ser Glu Thr Thr Gly Leu Thr Pro Asp Gln Val Lys Arg His  
 30 20 25 30  
 33 Leu Glu Lys Tyr Gly His Asn Glu Leu Pro Ala Glu Glu Gly Lys Ser  
 34 35 40 45  
 37 Leu Trp Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile  
 38 50 55 60  
 41 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu  
 42 65 70 75 80  
 45 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu  
 46 85 90 95  
 49 Ile Leu Ile Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala  
 50 100 105 110  
 53 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys  
 54 115 120 125  
 57 Val Tyr Arg Ala Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Arg Asp  
 58 130 135 140  
 61 Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro  
 62 145 150 155 160  
 65 Ala Asp Ile Arg Ile Leu Ser Ile Lys Ser Thr Thr Leu Arg Val Asp  
 66 165 170 175  
 69 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Glu  
 70 180 185 190  
 73 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu  
 74 195 200 205  
 77 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Leu Gly Ile Val Ala

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78      210      215      220
81 Thr Thr Gly Val Ser Thr Glu Ile Gly Lys Ile Arg Asp Gln Met Ala
82 225      230      235      240
85 Ala Thr Glu Gln Asp Lys Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
86      245      250      255
89 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Val Ala Val Trp
90      260      265      270
93 Leu Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
94      275      280      285
97 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
98      290      295      300
101 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
102 305      310      315      320
105 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
106      325      330      335
109 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
110      340      345      350
113 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Lys Met Phe Ile
114      355      360      365
117 Ile Asp Lys Val Asp Gly Asp Phe Cys Ser Leu Asn Glu Phe Ser Ile
118      370      375      380
121 Thr Gly Ser Thr Tyr Ala Pro Glu Gly Glu Val Leu Lys Asn Asp Lys
122 385      390      395      400
125 Pro Ile Arg Ser Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
126      405      410      415
129 Cys Ala Leu Cys Asn Asp Ser Ser Leu Asp Phe Asn Glu Thr Lys Gly
130      420      425      430
133 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Thr Leu
134      435      440      445
137 Val Glu Lys Met Asn Val Phe Asn Thr Glu Val Arg Asn Leu Ser Lys
138      450      455      460
141 Val Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Arg Gln Leu Met Lys
142 465      470      475      480
145 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
146      485      490      495
149 Tyr Cys Ser Pro Ala Lys Ser Ser Arg Ala Ala Val Gly Asn Lys Met
150      500      505      510
153 Phe Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Asn Tyr Val
154      515      520      525
157 Arg Val Gly Thr Thr Arg Val Pro Met Thr Gly Pro Val Lys Glu Lys
158      530      535      540
161 Ile Leu Ser Val Ile Lys Glu Trp Gly Thr Gly Arg Asp Thr Leu Arg
162 545      550      555      560
165 Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Lys Arg Glu Glu Met
166      565      570      575
169 Val Leu Asp Asp Ser Ser Arg Phe Met Glu Tyr Glu Thr Asp Leu Thr
170      580      585      590
173 Phe Val Gly Val Val Gly Met Leu Asp Pro Pro Arg Lys Glu Val Met
174      595      600      605

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177 Gly Ser Ile Gln Leu Cys Arg Asp Ala Gly Ile Arg Val Ile Met Ile
178      610      615      620
181 Thr Gly Asp Asn Lys Gly Thr Ala Ile Ala Ile Cys Arg Arg Ile Gly
182 625      630      635      640
185 Ile Phe Gly Glu Asn Glu Glu Val Ala Asp Arg Ala Tyr Thr Gly Arg
186      645      650      655
189 Glu Phe Asp Asp Leu Pro Leu Ala Glu Gln Arg Glu Ala Cys Arg Arg
190      660      665      670
193 Ala Cys Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val
194      675      680      685
197 Glu Tyr Leu Gln Ser Tyr Asp Glu Ile Thr Ala Met Thr Gly Asp Gly
198      690      695      700
201 Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
202 705      710      715      720
205 Gly Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala
206      725      730      735
209 Asp Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala
210      740      745      750
213 Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
214      755      760      765
217 Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Leu Pro
218      770      775      780
221 Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
222 785      790      795      800
225 Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
226      805      810      815
229 Met Asp Arg Pro Pro Arg Ser Pro Lys Glu Pro Leu Ile Ser Gly Trp
230      820      825      830
233 Leu Phe Phe Arg Tyr Met Ala Ile Gly Gly Tyr Val Gly Ala Ala Thr
234      835      840      845
237 Val Gly Ala Ala Ala Trp Trp Phe Met Tyr Ala Glu Asp Gly Pro Gly
238      850      855      860
241 Val Thr Tyr His Gln Leu Thr His Phe Met Gln Cys Thr Glu Asp His
242 865      870      875      880
245 Pro His Phe Glu Gly Leu Asp Cys Glu Ile Phe Glu Ala Pro Glu Pro
246      885      890      895
249 Met Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
250      900      905      910
253 Leu Asn Ser Leu Ser Glu Asn Gln Ser Leu Met Arg Met Pro Pro Trp
254      915      920      925
257 Val Asn Ile Trp Leu Leu Gly Ser Ile Cys Leu Ser Met Ser Leu His
258      930      935      940
261 Phe Leu Ile Leu Tyr Val Asp Pro Leu Pro Met Ile Phe Lys Leu Lys
262 945      950      955      960
265 Ala Leu Asp Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro
266      965      970      975
269 Val Ile Gly Leu Asp Glu Ile Leu Lys Phe Ile Ala Arg Asn Tyr Leu
270      980      985      990
273 Glu Asp Pro Glu Asp Glu Arg Arg Lys

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274          995          1000
277 <210> SEQ ID NO: 2
278 <211> LENGTH: 1016
279 <212> TYPE: PRT
280 <213> ORGANISM: Ovis sp.
282 <400> SEQUENCE: 2
284 Gly Arg Asp Lys Tyr Glu Pro Ala Ala Val Ser Glu His Gly Asp Lys
285 1          5          10          15
288 Lys Lys Ala Lys Lys Glu Arg Asp Met Asp Glu Leu Lys Lys Glu Val
289          20          25          30
292 Ser Met Asp Asp His Lys Leu Ser Leu Asp Glu Leu His Arg Lys Tyr
293          35          40          45
296 Gly Thr Asp Leu Asn Arg Gly Leu Thr Thr Ala Arg Ala Ala Glu Ile
297          50          55          60
300 Leu Ala Arg Asp Gly Pro Asn Ala Leu Thr Pro Pro Pro Thr Thr Pro
301 65          70          75          80
304 Glu Trp Val Lys Phe Cys Arg Gln Leu Phe Gly Gly Phe Ser Met Leu
305          85          90          95
308 Leu Trp Ile Gly Ala Val Leu Cys Phe Leu Ala Tyr Gly Ile Gln Ala
309          100         105         110
312 Ala Thr Glu Glu Glu Pro Gln Asn Asp Asn Leu Tyr Leu Gly Val Val
313          115         120         125
316 Leu Ser Ala Val Val Ile Ile Thr Gly Cys Phe Ser Tyr Tyr Gln Glu
317          130         135         140
320 Ala Lys Ser Ser Lys Ile Met Glu Ser Phe Lys Asn Met Val Pro Gln
321 145         150         155         160
324 Gln Ala Leu Val Ile Arg Asn Gly Glu Lys Met Ser Ile Asn Ala Glu
325         165         170         175
328 Glu Val Val Val Gly Asp Leu Val Glu Val Lys Gly Gly Asp Arg Ile
329         180         185         190
332 Pro Ala Asp Leu Arg Ile Ile Ser Ala Asn Gly Cys Lys Val Asp Asn
333         195         200         205
336 Ser Ser Leu Thr Gly Glu Ser Glu Pro Gln Thr Arg Ser Pro Asp Phe
337         210         215         220
340 Thr Asn Glu Asn Pro Leu Glu Thr Arg Asn Ile Ala Phe Phe Ser Thr
341 225         230         235         240
344 Asn Cys Val Glu Gly Thr Ala Arg Gly Ile Val Val Tyr Thr Gly Asp
345         245         250         255
348 Arg Thr Val Met Gly Arg Ile Ala Thr Leu Ala Ser Gly Leu Glu Gly
349         260         265         270
352 Gly Gln Thr Pro Ile Ala Ala Glu Ile Glu His Phe Ile His Ile Ile
353         275         280         285
356 Thr Gly Val Ala Val Phe Leu Gly Val Ser Phe Phe Ile Leu Ser Leu
357         290         295         300
360 Ile Leu Glu Tyr Thr Trp Leu Glu Ala Val Ile Phe Leu Ile Gly Ile
361 305         310         315         320
364 Ile Val Ala Asn Val Pro Glu Gly Leu Leu Ala Thr Val Thr Val Cys
365         325         330         335
368 Leu Thr Leu Thr Ala Lys Arg Met Ala Arg Lys Asn Cys Leu Val Lys

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```

369          340          345          350
372 Asn Leu Glu Ala Val Glu Thr Leu Gly Ser Thr Ser Thr Ile Cys Ser
373          355          360          365
376 Asp Lys Thr Gly Thr Leu Thr Gln Asn Arg Met Thr Val Ala His Met
377          370          375          380
380 Trp Phe Asp Asn Gln Ile His Glu Ala Asp Thr Thr Glu Asn Gln Ser
381 385          390          395          400
384 Gly Val Ser Phe Asp Lys Thr Ser Ala Thr Trp Leu Ala Leu Ser Arg
385          405          410          415
388 Ile Ala Gly Leu Cys Asn Arg Ala Val Phe Gln Ala Asn Gln Asp Asn
389          420          425          430
392 Leu Pro Ile Leu Lys Arg Ala Val Ala Gly Asp Ala Ser Glu Ser Ala
393          435          440          445
396 Leu Leu Lys Cys Ile Glu Val Cys Cys Gly Ser Val Lys Glu Met Arg
397          450          455          460
400 Glu Arg Tyr Ala Lys Ile Val Glu Ile Pro Phe Asn Ser Thr Asn Lys
401 465          470          475          480
404 Tyr Gln Leu Ser Ile His Lys Asn Ala Asn Ala Gly Glu Pro Arg His
405          485          490          495
408 Leu Leu Val Met Lys Gly Ala Pro Glu Arg Ile Leu Asp Arg Cys Ser
409          500          505          510
412 Ser Ile Leu Ile His Gly Lys Glu Gln Pro Leu Asp Glu Glu Leu Lys
413          515          520          525
416 Asp Ala Phe Gln Asn Ala Tyr Leu Glu Leu Gly Gly Leu Gly Glu Arg
417          530          535          540
420 Val Leu Gly Phe Cys His Leu Met Leu Pro Asp Glu Gln Phe Pro Glu
421 545          550          555          560
424 Gly Phe Gln Phe Asp Thr Asp Asp Val Asn Phe Pro Val Asp Asn Leu
425          565          570          575
428 Cys Phe Val Gly Leu Ile Ser Met Ile Asp Pro Pro Arg Ala Ala Val
429          580          585          590
432 Pro Asp Ala Val Gly Lys Cys Arg Ser Ala Gly Ile Lys Val Ile Met
433          595          600          605
436 Val Thr Gly Asp His Pro Ile Thr Ala Lys Ala Ile Ala Lys Gly Val
437          610          615          620
440 Gly Ile Ile Ser Glu Gly Asn Glu Thr Val Glu Asp Ile Ala Ala Arg
441 625          630          635          640
444 Leu Asn Ile Pro Val Ser Gln Val Asn Pro Arg Asp Ala Arg Ala Cys
445          645          650          655
448 Val Val His Gly Ser Asp Leu Lys Asp Met Thr Pro Glu Gln Leu Asp
449          660          665          670
452 Asp Ile Leu Lys Tyr His Thr Glu Ile Val Phe Ala Arg Thr Ser Pro
453          675          680          685
456 Gln Gln Lys Leu Ile Ile Val Glu Gly Cys Gln Arg Gln Gly Ala Ile
457          690          695          700
460 Val Ala Val Thr Gly Asp Gly Val Asn Asp Ser Pro Ala Leu Lys Lys
461 705          710          715          720
464 Ala Asp Ile Gly Val Ala Met Gly Ile Ala Gly Ser Asp Val Ser Lys
465          725          730          735

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VERIFICATION SUMMARY

DATE: 11/08/2005

PATENT APPLICATION: US/10/534,296

TIME: 12:16:11

Input Set : A:\UMD-63.seq.txt

Output Set: N:\CRF4\11082005\J534296.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date